

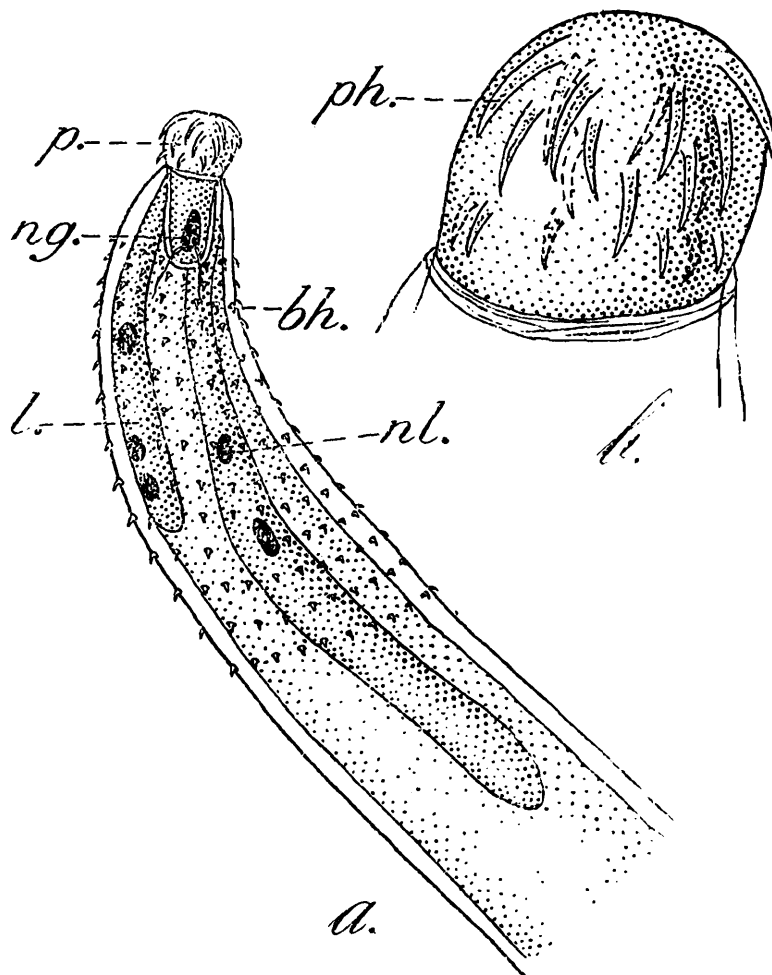
ON A NEW ACANTHOCEPHALA, *ACANTHOSENTIS SIRCARI*,  
 SP. NOV., FROM A CALCUTTA FISH, *RASBORA ELANGA* (HAM.).

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In the course of my investigations on the parasitic infections of various fishes of Bengal and other provinces available in the Calcutta markets, I found a new acanthocephalan parasite in the intestine of *Rasbora elanga* (Ham.). This fish is known in Bengal as "Elang bata", and is generally available in the local markets from September to March. I found that nearly 60 per cent of the fishes were infected with these parasites and the highest number of parasites in one specimen was 8-10; all the parasites were found in the intestine of the host. This worm is described below as *Acanthosentis sircari*<sup>1</sup>, sp. nov.

***Acanthosentis sircari*, sp. nov.**

The body is usually cylindrical with a broad anterior end, while the posterior portion tapers a little towards the extremity. Sexual dimor-



TEXT-FIG. 1.—Anterior portion of *Acanthosentis sircari*, sp. nov.

*bh.*, body hooks; *l.*, lemnisci; *ng.*, central nerve ganglion; *nl.*, nucleus of the lemnisci; *p.*, proboscis; *ph.*, proboscis hooks.

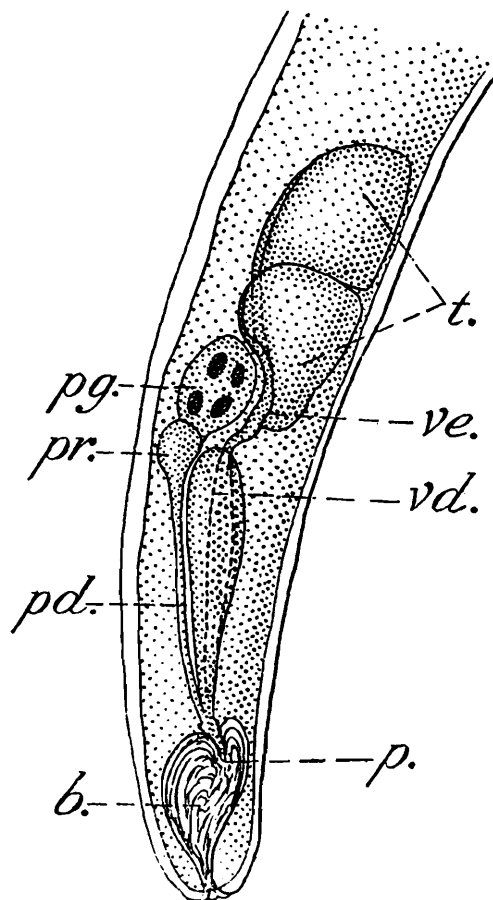
<sup>1</sup> The species has been named after Sir Nilratan Sircar, M.A., M.D., D.Sc., as a mark of gratitude for his keen interest in this line of research.

phism is well marked, the females being much larger than the males. The colour of fresh specimens is creamy-white.

The proboscis is globular with 3 rows of 6 hooks each. The hooks of the first and second rows are much larger than those of the third row. There is no definite neck, but in fully stretched specimens a comparatively small space, devoid of spines, corresponding to the neck can be distinguished.

The anterior half of the body is armed with circular rows of curved spines. In the anterior region these spines are closely set, but the rows near the middle are wide apart. In the body-wall there are a few giant sub-cuticular nuclei, five on the dorsal and two in the ventral aspect of the body, some branched nuclei are also present. The lacunar system is well developed. The transverse canals are very prominent, their course in the body-wall corresponds to the circles of cuticular spines and suggests a pseudosegmentation of the body.

The proboscis sheath is a single-layered, thin walled muscular sac, hanging down from the middle region of the proboscis. The central nerve ganglion is situated at the posterior extremity of the proboscis sheath.



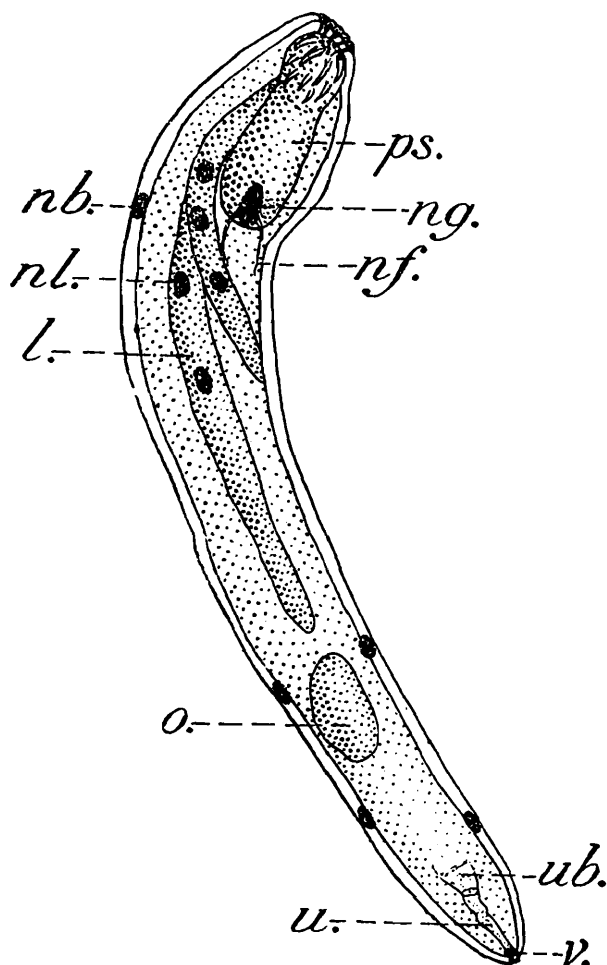
TEXT-FIG. 2.—Posterior portion of male *Acanthosentis sircari*, sp. nov.

b., bursa; p., penis; pd. prostatic duct; pg., Prostatic glands; pr., Prostatic reservoir; t., testes; vd., vas deferens; ve., vasa efferentia.

The two lemnisci are situated normally on either side of the proboscis sheath. One of the lemnisci is much longer than the other, being

nearly twice its length. This is a constant feature in all the specimens examined. There are three nuclei in the shorter lemniscus, and two in the longer.

The male genitalia consist of two ovoid testes situated closely apposed to each other. The vasa efferentia join one another near the prostatic reservoir to form a thick and elongated vas deferens which ends in the penis. The prostatic gland is a single syncytial mass with 6 to 8 nuclei embedded in it. It lies closely behind the posterior testis. The prostatic reservoir is a rounded organ which is continued as a narrow prostatic duct opening at the base of the penis. The seminal vesicle is a long balloon-shaped sac which also opens near the opening of the vas deferens into the penis. The penis is a conical muscular organ which ends at the top of the eversible bursa. The bursa is a funnel-shaped structure which, in most cases, is retracted within the body.

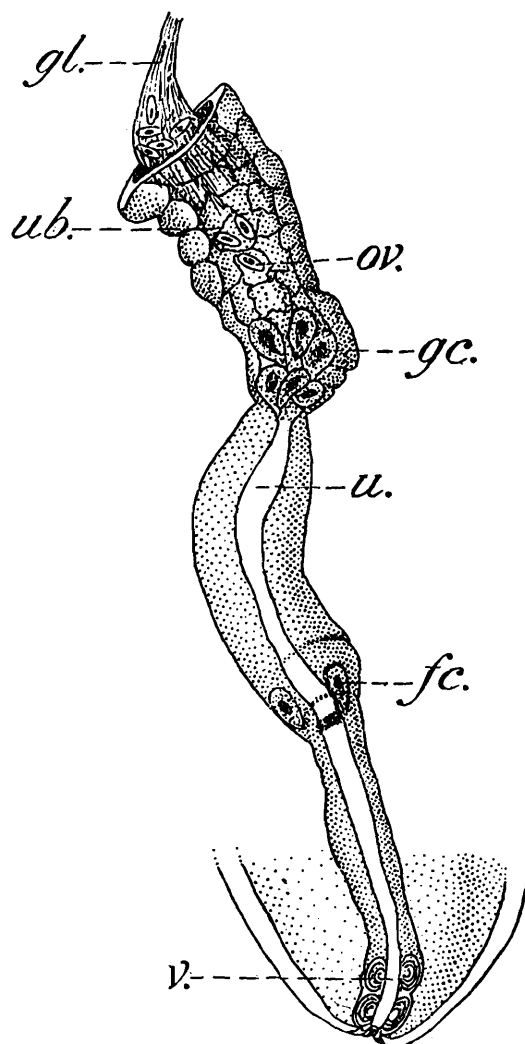


TEXT-FIG. 3.—Young female *A. sircari*, sp. nov. showing developing ovary.

*l.*, lemnisci; *nb.*, body nucleus; *nf.*, nerve retinaculi; *ng.*, central nerve ganglion; *o.*, ovary; *ps.*, proboscis sheath; *u.*, uterus; *ub.*, uterine bell; *v.*, vagina.

The female genitalia consist of a thick walled uterine-bell which at its posterior end is continued as a long, tubular uterus. At the posterior extremity of the uterine-bell just near its opening into the uterus there are 5 to 6 giant cells, the "guard cells" which control the passage of the mature ova into the uterus. The wall of the uterus is thick, its posterior half is very muscular, and its lumen is much narrower posteriorly than anteriorly. At the junction of the anterior and posterior portions

of the uterus there are two giant cells situated within the uterine wall; these are the flask cells (Verma & Datta). The uterus leads into the thick and muscular vagina, which is situated at the postero-ventral end of the worm.



TEXT-FIG. 4.—Female genitalia of *A. sircari* sp. nov.

*fc.* flask cell; *gc.*, guard cell; *gl.*, genital ligament; *ov.*, ova; *u.*, uterus; *ub.*, uterine bell; *v.*, vagina.

**Measurements.**—Males 3.11—4.76mm.  $\times$  0.48—0.67mm.; females 2.94—11.89mm.  $\times$  0.39—1.01mm.; proboscis 0.138 $\times$ 0.115mm.; proboscis hooks, row (i) 0.055mm. long, row (ii) 0.048mm. long, row (iii) 0.018mm. long; proboscis sheath 0.265 $\times$ 0.150mm.; lemnisci (i) 0.920 $\times$ 0.104mm., (ii) 1.932 $\times$ 0.161mm.; testis, anterior 0.391 $\times$ 0.345mm., posterior 0.379 $\times$ 0.322mm.; prostatic gland 0.253 $\times$ 0.207mm.; vas deferens 0.667mm. long; prostatic reservoir 0.161 $\times$ 0.104mm.; prostatic duct 0.598mm. long; bursa 0.437mm. long; uterine bell 0.115mm. long; uterus 0.133mm. long; vagina 0.161mm. long. Ova not liberated.

In the new species the males are generally much smaller than the females. The lemnisci are much longer than the proboscis sheath and one of the lemnisci is nearly double in length of the other. There are 3 nuclei in the shorter and 2 in the longer lemnisci. The wall of the proboscis sheath is single layered. The central nerve ganglion is situated

TABLE I.

Showing measurements of closely related species.

Name of species.	Sex.	Dimensions.	Proboscis.	Prob. Sheath.	Lemnisci.	Terminal Hooks.	Sub-cuticular nuclei.
<i>A. antspinus</i> Verma & Datta	♂	1.0-1.25 × 0.25-0.2 mm.	0.04-0.17 × 0.04-0.05 mm.	0.17-0.38 × 0.04-0.13 mm.	0.04-0.17 × 0.04-0.07 mm. both equal.	3 rows of 6 hooks. (i) 72μ (ii) 54μ (iii) 48μ	few oval & branched.
	♀	2.0-3.0 × 0.75-1.0 mm.					
<i>A. holospinus</i> Sen .. ..	♂	0.9-2.4 × 0.2-0.4 mm.	0.1 × 0.05 mm.	0.3 × 0.08 mm.	Slender and little longer than the proboscis sheath.	....	4 dorsal & 2 ventral.
	♀	1.6-9.4 × 0.2-0.7 mm.					
<i>A. dattai</i> Podder .. ..	♂	1.34-3.34 × 0.24-0.42 mm.	0.12 × 0.055 mm.	0.42 × 0.12 mm.	(i) 0.68 × 0.055 mm. (ii) 0.59 × 0.055 mm. Slightly longer than the proboscis sheath.	(i) 0.05 mm. (ii) 0.03 mm. (iii) 0.026 mm.	4-6 dorsal & 2 ventral
	♀	1.67-9.46 × 0.44-0.9 mm.					
<i>A. sarcari</i> , sp. nov. ..	♂	3.11-4.76 × 0.48-0.67 mm.	0.138 × 0.115 mm.	0.265 × 0.150 mm.	Much longer than the proboscis sheath, one nearly double the length of the other.	(i) 0.055 mm. (ii) 0.048 mm. (iii) 0.018 mm.	5 dorsal & 2 ventral.
	♀	2.94-11.89 × 0.39-1.01 mm.			(i) 0.920 × 0.104 mm. (ii) 1.932 × 0.161 mm.		

near the posterior extremity of the proboscis sheath. The prostatic gland is a single, syncitial mass, with 6-8 nuclei and the lacunar system is well developed.

*Host.*—*Rasbora elanga* (Ham.)

*Location.*—Intestine.

*Locality.*—Calcutta, India.

*Type specimens.*—(Reg. No. W3445/1) Deposited in the collections of the Zoological Survey of India (*Ind. Mus.*), Calcutta.

In conclusion, I have to express my hearty thanks to Dr. Bains Prashad, Director, Zoological Survey of India, Calcutta, for giving me facilities to consult the literature in the library and to Mr. M. N. Datta of the same department for his valuable suggestions.

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